

# **Collaborative Environmental Policies for the Dairy Sector**



**John Shenot**

**Atlantic Fellow in Public Policy**

**Wisconsin Department of Natural Resources**

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# Outline

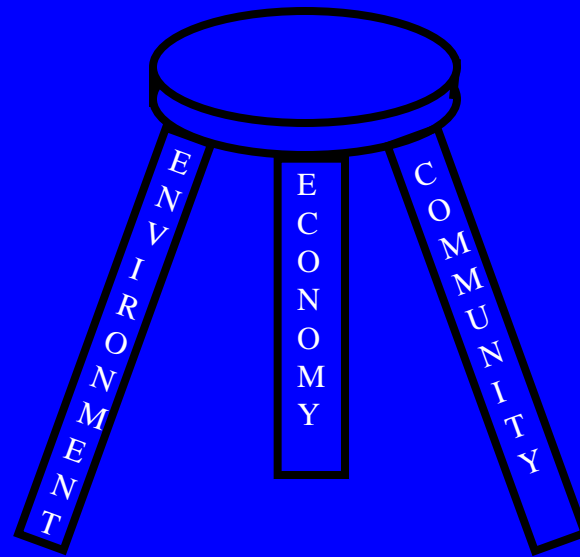
- Policy Framework: Sustainability
- Why Focus on the Dairy Sector?
- Why Collaborate?
- UK Policy Initiatives
- Conclusions/Recommendations

# Policy Framework: Sustainability

- 1987 World Commission for Environment and Development (the Brundtland Commission):
  - “Humanity has the ability to make development sustainable - to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs.”

# Policy Framework: Sustainability

- The Three Pillars of Sustainable Development
  - Community
  - Economy
  - Environment





# Why Focus on the Dairy Sector?

- Community:
  - Agriculture holds together rural communities, but it can also pull them apart
  - Rural communities preserved and now sustain the Welsh language
  - Dairy sector defines the character of entire regions...



# Why Focus on the Dairy Sector?

- Community - America's Dairyland:
  - Wisconsin has more dairy processing plants than any other state and is #1 in cheese production (27% of US total!)
  - Wisconsin is the #2 producing state for milk, behind California
  - Wisconsin has 8 times as many dairy farms, but California farms are gigantic





# Why Focus on the Dairy Sector?

- Economy - GDP:
  - Of all farm types, dairy is an economic leader
    - UK: 1/6 of total agricultural output
    - US: 1/10
    - Wales: 1/3
    - Wisconsin: 1/2
  - But farming makes a tiny total contribution
    - UK: 1% of GDP
    - US: 1% of GDP

# Why Focus on the Dairy Sector?

- Economy - Employment:
  - Farmers are a small fraction of the workforce
    - UK and US: 2% of jobs
  - Can be more significant regionally
    - In counties of rural Wales: 9% of jobs
    - In rural Wisconsin: 7%
  - Farm-*related* employment much higher:
    - US: 14% of jobs
    - Rural Wisconsin: 22%

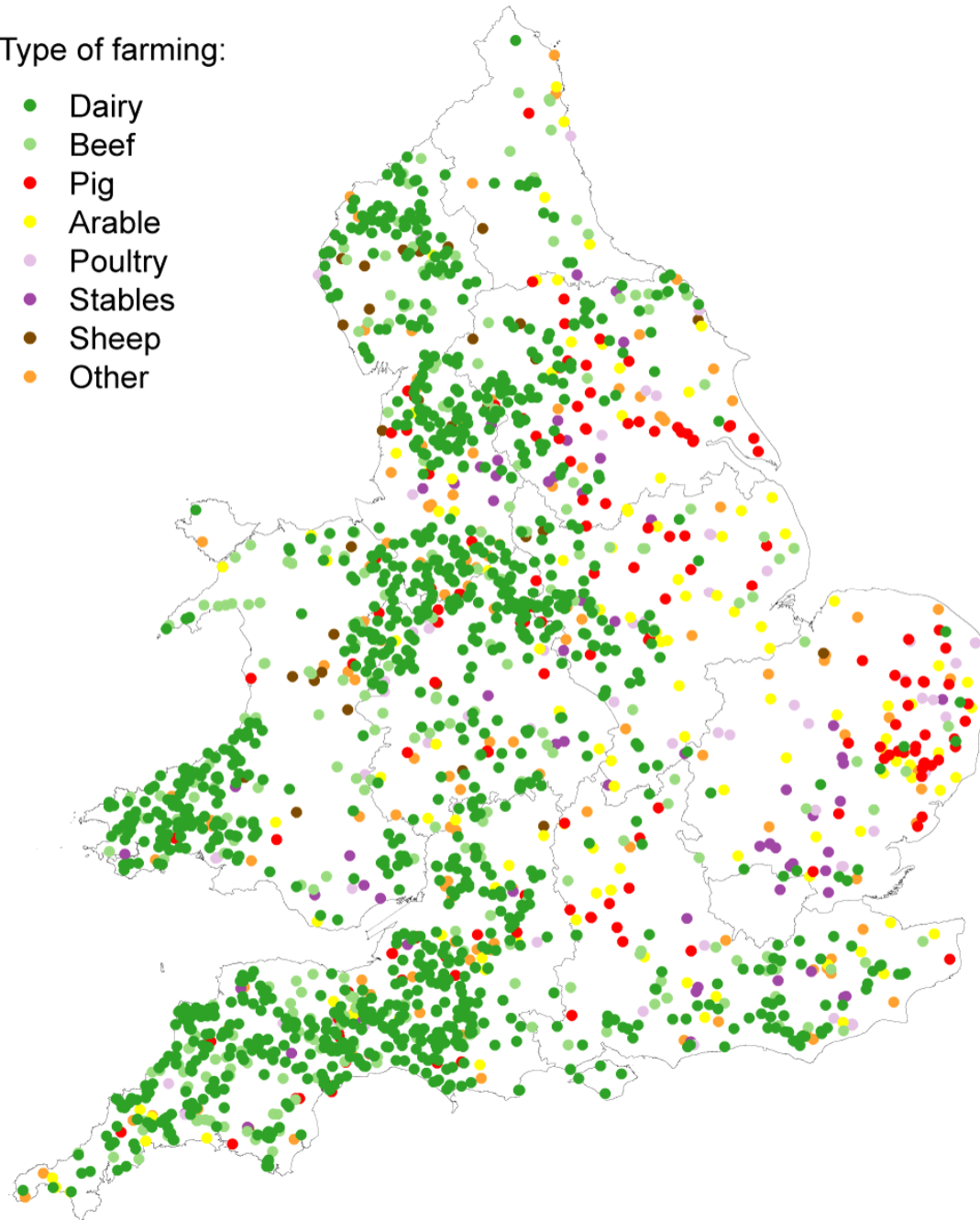
# Why Focus on the Dairy Sector?

- Environment:
  - April 1993 outbreak of cryptosporidium in Wisconsin infects more than 400,000 and kills 54; runoff from dairy farms suspected
  - Milwaukee spends \$89 million to improve its drinking water supply after crypto outbreak.
  - UK water companies spending millions annually to remove agricultural nitrate pollution from drinking water

# All farming related pollution incidents 2001 to 2003

Type of farming:

- Dairy
- Beef
- Pig
- Arable
- Poultry
- Stables
- Sheep
- Other













# Why Focus on the Dairy Sector?

- Environment:
  - Water Use
    - Need 50-200 liters/cow/day
  - Average annual rainfall in...
    - Exeter, UK: 807 mm
    - Manitowoc, WI: 777 mm
    - Tulare, CA: 272 mm and just 29 days/yr



# Why Focus on the Dairy Sector?

- Environment:
  - Land use
    - UK: 77% of all land is in agriculture
    - Wisconsin: 44%
  - Climate change
    - UK: 8% of total GHG emissions from agriculture
    - US: 8%
  - Habitats and biodiversity



Greater Prairie Chicken - Wisconsin



Grey Partridge - Great Britain

# Why Focus on the Dairy Sector?

- Ultimately, sustainable development is impossible without sustainable agriculture
- With 60 million people in the UK, 280 million in the US, and 6 billion in the world, we couldn't go back to hunting and gathering if we wanted to... and I, for one, would miss the cheese!
- *If you live in Wisconsin and care about sustainability, you focus on the dairy sector!*

“Power consists in one's capacity to link his will with the purpose of others, to lead by reason and a gift of **cooperation.**”

— *U.S. President Woodrow Wilson*



“Management means, in the last analysis, the substitution of thought for brawn and muscle, of knowledge for folklore and superstition, and of **cooperation** for force. . .”

— *Peter F. Drucker*

# Why Collaborate?

- Community:
  - Collaboration brings communities together
  - Confrontation tears them apart
  - No solution is ever sustainable without community support
  - Average UK dairy farmer...
    - works 70 hrs/wk
    - gets no weekends off
    - takes 4 days holiday/yr

# Why Collaborate?

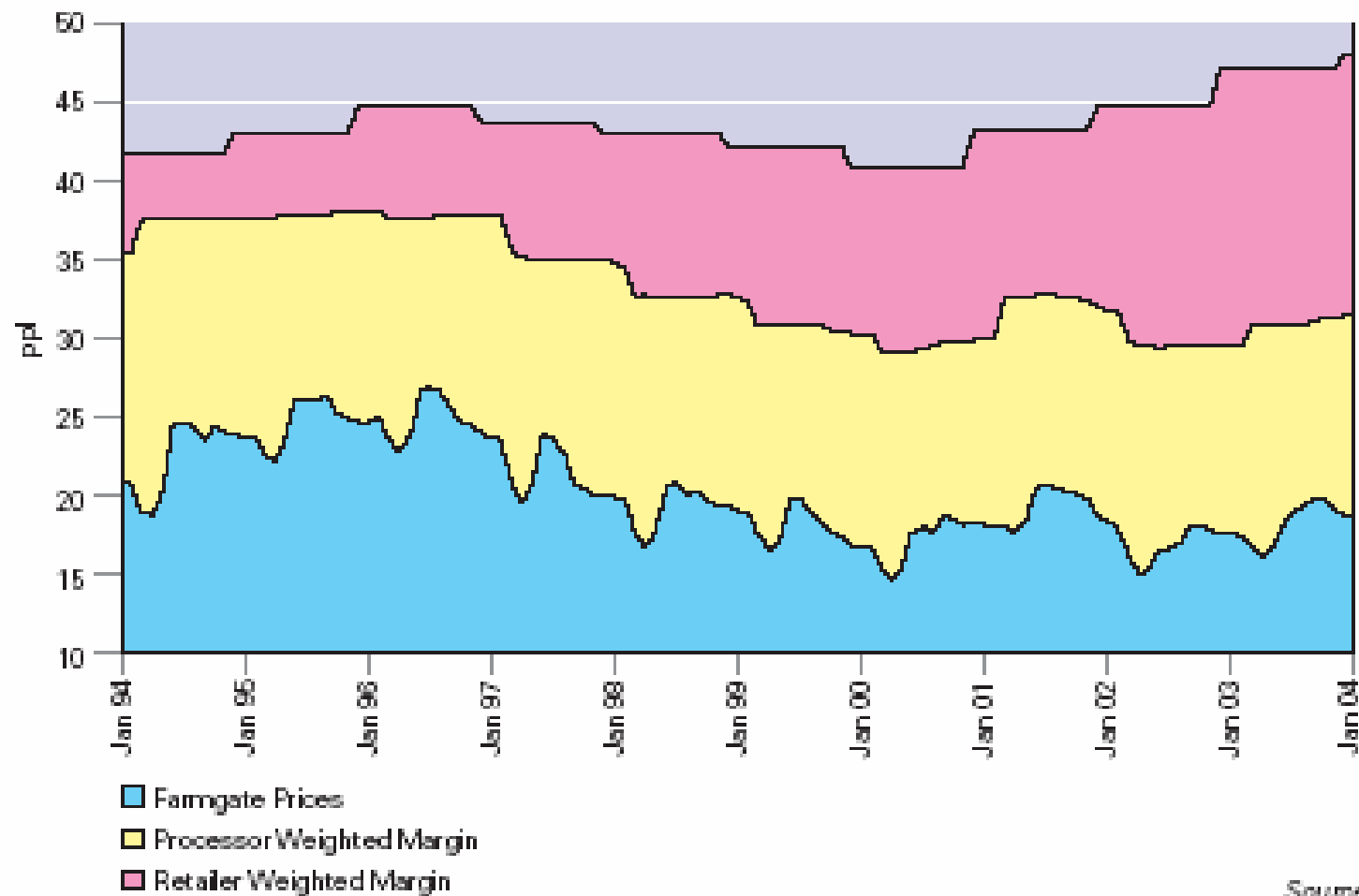
- Economy:
  - Many dairy farms already losing money
    - Incomes below national minimum wage 5 of the last 7 years
    - Effective rate of pay has averaged £2.90 per hour
    - In 2003, 60% of UK dairy farmers made no profit
    - Number of UK dairy farms falling steadily, by at least 3-4% per year

# Why Collaborate?

- Economy:
  - Dairy farmers can't pass higher costs along to their customers
    - 4 major supermarkets control 70% of the market
    - <10 large dairy processing companies
    - 25,000 or so primary producers
    - Supermarkets “adversely affect the competitiveness of some of their suppliers and distort competition in the supplier market... (T)hese practices give rise to a... complex monopoly situation.”



**Fig. 1: Average Margins Across Dairy Supply Chain**



Source: MDC

# Why Collaborate?

- Environment:
  - Governments lack the resources to enforce conventional regulatory solutions

	Wisconsin	England & Wales
# Farms	77,000	224,000
# Dairy Farms	17,800	17,400

# Why Collaborate?

- Environment:
  - Farmers know the land but often need help and specialist technical advice
  - More ideas and better results
  - Intrinsic motivation has a knock-on effect and costs less











# UK Policy Initiatives

- Scope = “collaborative” environmental policies
- Categories:
  - Education and Advice
  - Economic Incentives/Disincentives
  - Environmental Management Systems
  - Negotiated/Voluntary Agreements

# UK Policy Initiatives

- Education and Advice:
  - Published Advice, Guidance, and Software
  - Catchment Advisors
  - Demonstration Farms
  - Farming Connect





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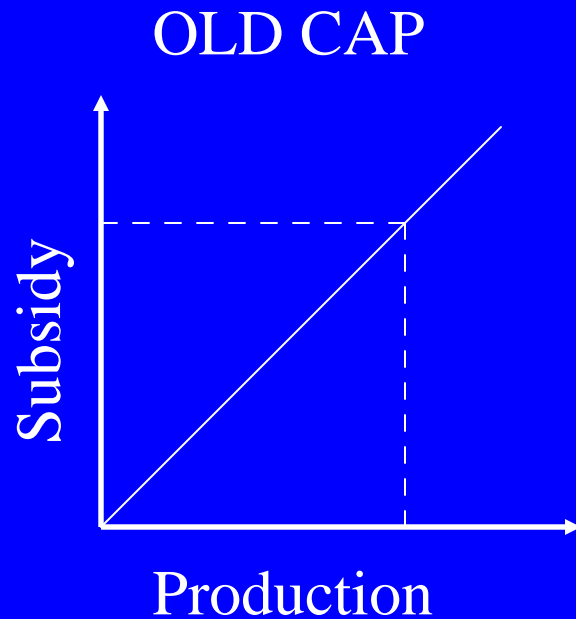
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# UK Policy Initiatives

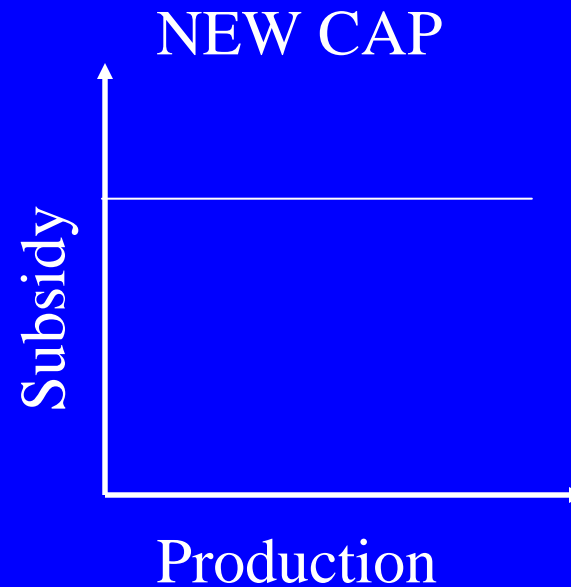
- Economic Incentives/Disincentives:
  - CAP Reform
  - Single Farm Payment & Cross Compliance
  - Agri-Environment Schemes
  - Organic Farming Schemes
  - Renewable Energy Incentives

# UK Policy Initiatives

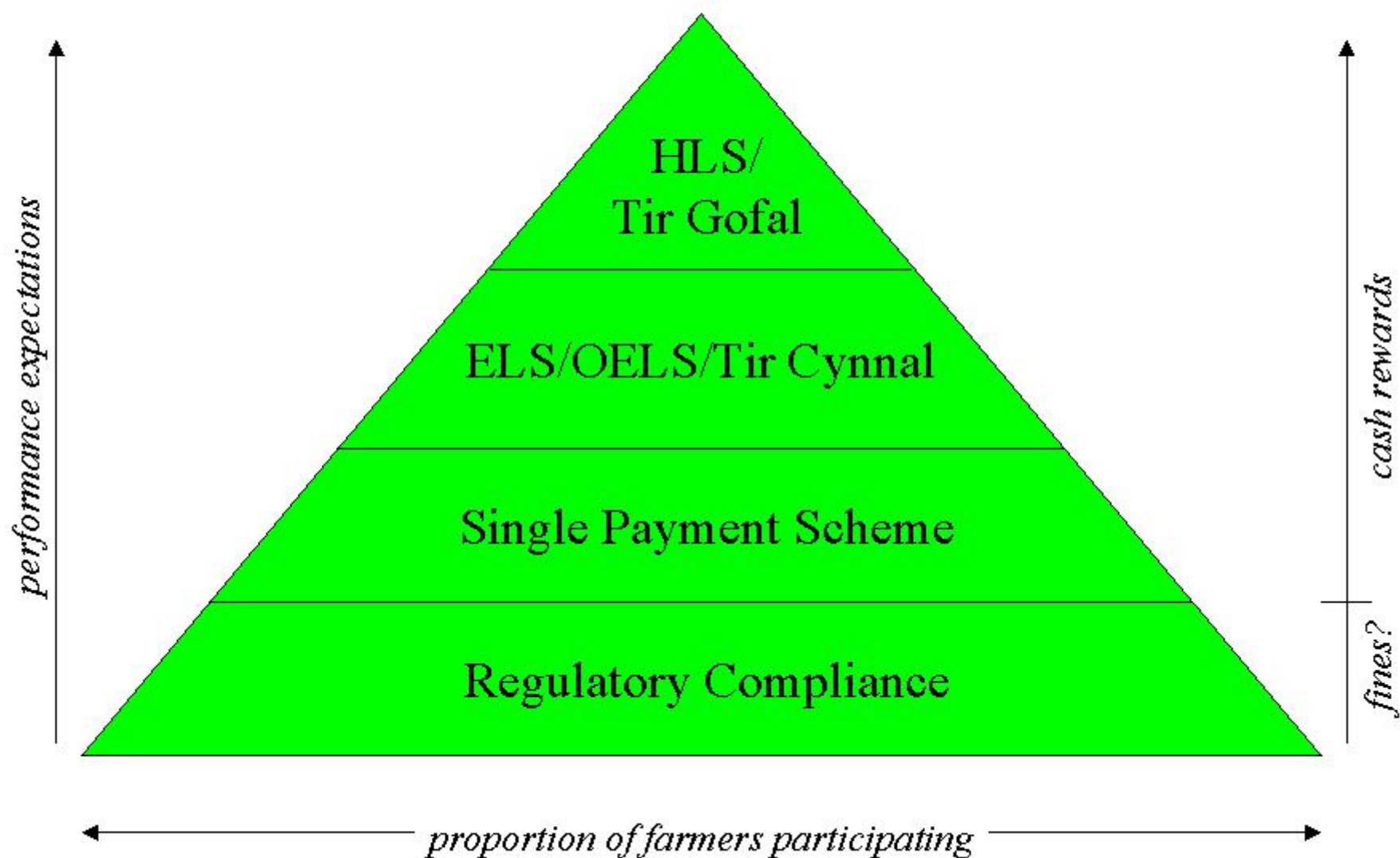
- Conceptual model of “decoupling”



Increase production if:  
 $\text{cost} < (\text{farmgate price} + \text{subsidy})$



Increase production if:  
 $\text{cost} < \text{farmgate price}$



# UK Policy Initiatives

- Environmental Management Systems:
  - What is an EMS?
  - EMSF/Whole Farm Appraisal
  - EMS in the Dairy Supply Chain

# UK Policy Initiatives

- Negotiated/Voluntary Agreements:
  - Dairy Sector Plan
  - Pesticides Voluntary Initiative
  - National Dairy Farm Assured Scheme
  - Environmental Brands and Labels

# UK Policy Initiatives

- Dairy Sector Plan:
  - A work in progress
  - Partnership of EA, NFU, MDC... and others?
  - 5 year, strategic plan
  - Agreed objectives **and priorities**
  - Win-win solutions
  - Building trust

# UK Policy Initiatives

- Voluntary Initiative:
  - Government proposed £125M per year tax on pesticides to reduce environmental impacts
  - Agricultural industries proposed voluntary plan
  - Negotiated 5 year agreement in 2001
  - Results so far:
    - work plan on schedule
    - heightened awareness and sense of responsibility
    - hitting targets, but are targets ambitious enough?
    - 95% less expensive than proposed tax



# UK Policy Initiatives



# Conclusions/Recommendations

- What works well or shows great promise?
  - Merging agricultural and environmental bureaucracies
  - Multiple combinations of policy instruments and institutions
  - Carrots and Sticks
  - Collaboration
  - Creating economic value for natural capital, esp. tiered approach to agri-environment

# Conclusions/Recommendations

- What hasn't worked so well?
  - Initiative overload
  - Eliminating milk marketing boards/tolerance of supermarket oligopoly
  - Eliminating state-sponsored advice in England
  - Promoting EMS on farms
  - Renewable energy incentives

# Conclusions/Recommendations

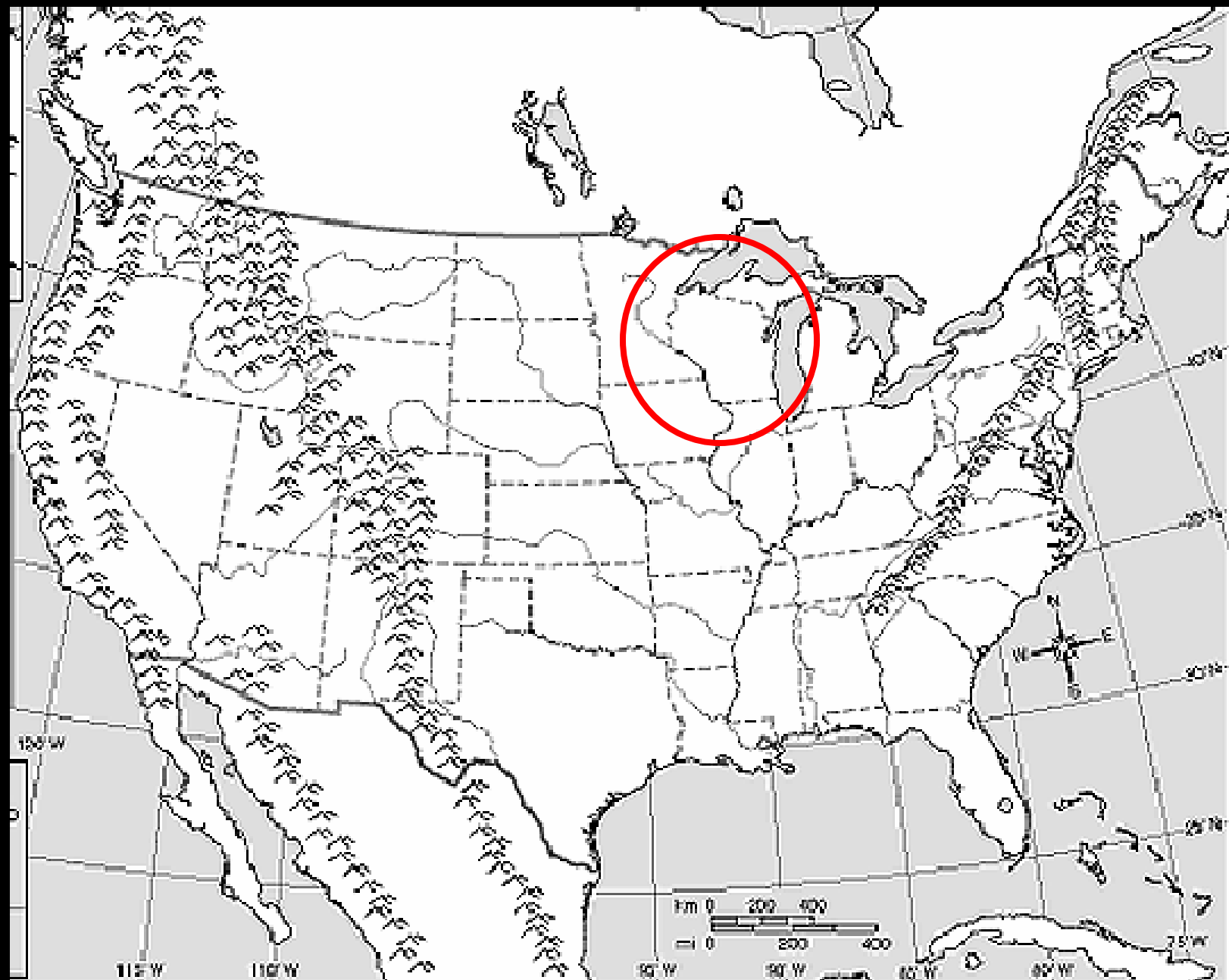
- Other lessons and insights:
  - “Local” is the key to sustainable dairy farming
  - Importing food = exporting problems?
  - Short memories re: food security
  - Organic production not without problems
  - Target contractors

# Conclusions/Recommendations

- Applicability of UK lessons to US Policy:
  - Similarities in size and structure of dairy sector, environmental issues, and capabilities of regulatory authorities
  - Major differences concerning grazing systems, public attitude to animal welfare, importance of agriculture to biodiversity
  - Politics and economics are complicated
  - **Overall, very applicable**

# Conclusions/Recommendations

- Recommendations for US Policy:
  - Stop thinking of agriculture policy almost solely in terms of market interventions
  - Think instead in terms of natural capitalism
  - Look for better carrots, but dust off the sticks!
  - Tiered approach to agri-environment/GAEC
  - Agricultural NGOs need to engage environmental NGOs **and lead!**
  - Policy Opportunities: Farm Bill, Air Permits, CAFO rules



# Conclusions/Recommendations

- Recommendations for Wisconsin Policy:
  - Interagency teams or routine meetings
  - Dairy sector plan and watershed plan
  - Risk-based regulatory approach
  - Farming Connect model for advice network
  - Catchment officers/advisors
  - Policy Opportunities: Runoff Initiative, Runoff rules, Air Permits, CAFO rules, Green Tier, Dairy Gateway



# Conclusions/Recommendations

- Recommendations for UK Policy:
  - Finish dairy sector plan with more partners
  - Concentrate pilot efforts geographically (sector plan, catchment advice, CSF, WFA...)
  - Start thinking now about how to ensure large CAFOs are sustainable
  - Embrace climate change as an opportunity for farm businesses to diversify
  - Address the problem of supermarket power

*Thank you!*

